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Kilpatrick Townsend and Stockton, LLP  
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EXAMINER
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ROBERT LACROIX

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Appeal 2016-005503  
Application 13/741,826  
Technology Center 2600

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Before ALLEN R. MacDONALD, JOHN P. PINKERTON, and  
GARTH D. BAER, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–24, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> The real party in interest identified by Appellant is Immersion Corporation. Appeal Br. 2.

## STATEMENT OF THE CASE

### *Introduction*

Appellant's described and claimed invention relates generally to "[providing] feedback based on an augmented reality environment." Abstract.<sup>2</sup>

Claim 1 is representative and reads as follows (with the disputed limitation *emphasized*):

1. A wearable device configured to provide feedback based on an augmented reality environment, the wearable device comprising:

a processor configured to:

receive a control signal from an augmented reality device that generates the augmented reality environment and is remote from the wearable device, the control signal representative of an event occurring in the augmented reality environment; and

*a feedback device configured to provide a feedback based on the received control signal.*

Appeal Br. 15 (Claims App.).

### *Rejections on Appeal*

Claims 1–3, 5–12, 17–21, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pretlove et al. (US 2004/0189675 A1; published Sept. 30, 2004) ("Pretlove"), in view of Banerjee et al. (US 2007/0035511 A1; published Feb. 15, 2007) ("Banerjee").

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<sup>2</sup> Our Decision refers to the Final Office Action (mailed Mar. 5, 2015, "Final Act."), Appellant's Appeal Brief (filed Oct. 5, 2015, "Appeal Br.") and Reply Brief (filed Apr. 26, 2016, "Reply Br."), the Examiner's Answer (mailed Feb. 26, 2016, "Ans."), and the original Specification (filed Jan. 15, 2013, "Spec.).

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Pretlove, in view of Banerjee, and further in view of Kipman et al. (US 2011/0279249 A1; published Nov. 17, 2011).

Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pretlove, in view of Banerjee, and further in view of Konertz et al. (US 2011/0310227 A1; published Dec. 22, 2011) (“Konertz”).

Claims 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pretlove, in view of Banerjee, and further in view of David Merrill and Pattie Maes, *Augmenting Looking, Pointing and Reaching Gestures to Enhance the Searching and Browsing of Physical Objects*, Springer-Verlag, Proceedings of the 5th International Conference on Pervasive Computing (May 13–16, 2007), *available at* <http://dl.acm.org/citation.cfm?id=1758156.1758158> (“Merrill”).

Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pretlove, in view of Banerjee, and further in view of Hatch et al. (US 2013/0002425 A1; published Jan. 3, 2013) (“Hatch”).

#### ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellant’s arguments in the Appeal Brief (*see* App. Br. 4–14) and the Reply Brief (*see* Reply Br. 1–4) and are not persuaded the Examiner has erred. Unless otherwise noted, we adopt as our own the findings and reasons set forth by the Examiner in the Office Action from which this appeal is taken (Final Act. 2–29) and in the Examiner’s Answer (Ans. 2–36), and we concur with the conclusions reached by the Examiner. For emphasis, we consider and

highlight specific arguments as presented in the Appeal Brief and Reply Brief.

*Rejection of Claims 1–3, 5–12, 17–21, and 24 under § 103(a)*

Appellant argues neither Pretlove nor Banerjee teaches or suggests a wearable device that includes “a feedback device configured to provide a feedback based on the received control signal,” as recited in independent claim 1, and similarly recited in independent claims 17 and 24. *See* Appeal Br. 6, 8–10. As argued by Appellant, none of the wearable elements described in Pretlove (e.g., wearable computer or head-mounted display device) would be conducive to having the feedback device of Banerjee incorporated therein, as the force feedback device of Banerjee is not a wearable device and, instead, is configured to be grasped or otherwise held by the user. *See* Appeal Br. 6–10. As further argued by Appellant, Pretlove’s wearable computer is configured to be worn on a user’s back, where, in contrast, the haptic touch device described in Banerjee is a device configured to be grasped or otherwise held as a stylus. *See* Reply Br. 2–3. Thus, as argued by Appellant, the combination of Pretlove and Banerjee does not render the claims obvious. *See* Reply Br. 3.

We do not find this argument persuasive. The Examiner’s rejection is not based upon a bodily incorporation of Banerjee’s handheld haptic touch device into Pretlove’s wearable device (e.g., wearable computer or head-mounted display device). *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.”); *In re*

*Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”). Instead, the Examiner’s rejection is based on a modification of Pretlove’s augmented reality system (which includes wearable devices) to incorporate haptic feedback (e.g., force feedback) as taught by Banerjee. *See, e.g.*, Ans. 26–28.

While we do not agree with the Examiner’s finding that the concept of holding a device and a device being wearable are analogous in the sense of being the same (*see* Ans. 28), we agree that the references are analogous in the sense of being “reasonably pertinent to the particular problem with which the inventor is involved.” *Innovention Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011) (quotation omitted). We agree with the Examiner’s findings that Pretlove teaches a wearable device, Banerjee teaches a haptic device configured to provide haptic feedback (e.g., force feedback) based on a control signal, and thus, the combination of Pretlove and Banerjee teaches or suggests a wearable device that includes “a feedback device configured to provide a feedback based on the received control signal,” as recited in claim 1, and similarly recited in claims 17 and 24. *See, e.g.*, Final Act. 6–8. Further, Appellant has not asserted the proposed modification would have been beyond the capabilities of a person of ordinary skill in the art. Absent such an assertion, we “take account of the inferences and creative steps that a person of ordinary skill in the art would employ,” and find a person of ordinary skill in the art would overcome those difficulties if doing so is within their level of skill. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007); *see also id.* at 421 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

Thus, we are not persuaded the Examiner erred in finding the combination of Pretlove and Banerjee teaches or suggests all of the elements of claims 1, 17, and 24. Accordingly, we sustain the rejection of claims 1, 17, and 24 under 35 U.S.C. § 103(a), as well as dependent claims 2–3, 5–12, and 18–21, which are not argued separately.

*Rejection of Claim 4 under § 103(a)*

Appellant argues there would have been no objective reason, at the time of Appellant's invention, to combine Kipman with Pretlove and Banerjee as asserted in the Final Office Action. *See* Appeal Br. 10. As argued by Appellant, one of ordinary skill in the art would not have looked to the virtual reality system of Kipman to change the force feedback device of Banerjee's augmented reality system to be a non-mechanical haptic output device, as such a change would change the principle operation of Banerjee's force feedback device. *See id.*

We do not find this argument persuasive. Appellant fails to cite any portion of Banerjee that teaches or suggests a haptic output device is required to be a mechanical haptic output device. Thus, Appellant has failed to show why changing Banerjee's force feedback output device to a non-mechanical haptic output device, such as Kipman's ultrasonic haptic output device, would change the principle operation of Banerjee. Accordingly, we sustain the rejection of claim 4 under 35 U.S.C. § 103(a).

*Rejection of Claims 13 and 14 under § 103(a)*

Appellant argues Konertz fails to teach or suggest “an identifier device configured to generate identifying indicia used by the augmented reality device to identify the wearable device,” as recited in claim 13, and “wherein the identifying indicia comprises an optical signature or a non-

visible signature,” as recited in claim 14. *See* Appeal Br. 11. As argued by Appellant, Konertz’s light emitting element, without more, cannot reasonably be interpreted as an optical signature used by an augmented reality device to identify a wearable device. *See id.*

We do not find this argument persuasive. Appellant’s specification describes the claimed “optical signature” as a “signature that is within visible wavelengths of light.” *See* Spec. ¶ 45. Thus, we agree with the Examiner that Konertz’s visual indication presented via a light-emitting element of a mobile device teaches the claimed “optical signature.” *See* Ans. 33–34. Accordingly, we sustain the rejection of claims 13 and 14 under 35 U.S.C. § 103(a).

*Rejection of Claims 15 and 16 under § 103(a)*

Appellant argues Merrill does not cure the alleged deficiencies of Pretlove and Banerjee with respect to claim 1. *See* Appeal Br. 12. However, as discussed above, we agree with the Examiner’s finding that the combination of Pretlove and Banerjee teaches or suggests all the claim elements of claim 1. *See* Final Act. 6–8. Thus, we are not persuaded the Examiner erred in finding the combination of Pretlove, Banerjee, and Merrill teaches or suggests all of the claim elements of claims 15 and 16, which depend from claim 1. *See* Final Act. 25–27. Accordingly, we sustain the rejection of claims 15 and 16 under 35 U.S.C. § 103(a).

*Rejection of Claims 22 and 23 under § 103(a)*

Appellant argues Hatch does not cure the alleged deficiencies of Pretlove and Banerjee with respect to claim 17. *See* Appeal Br. 13. However, as discussed above, we agree with the Examiner’s finding that the combination of Pretlove and Banerjee teaches or suggests all the claim



elements of claim 17. *See* Final Act. 15–16. Thus, we are not persuaded the Examiner erred in finding the combination of Pretlove, Banerjee, and Hatch teaches or suggests all of the limitations of claims 22 and 23, which depend from claim 17. *See* Final Act. 27–29. Accordingly, we sustain the rejection of claims 22 and 23 under 35 U.S.C. § 103(a).

#### DECISION

We affirm the Examiner’s rejection of claims 1–24 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED